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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,472	10/31/2003	Donald A. Powell	TI-34904	2765

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EXAMINER

AZEMAR, GUERSSY

ART UNIT PAPER NUMBER

2613

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/699,472	Applicant(s) POWELL ET AL.	
	Examiner Guerssy Azemar	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/31/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 13-16, 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Szczepanek et al. (20040008401).

(1) With respect to claims 1 and 14:

As shown in figure 2, Szczepanek et al. teaches an optical communication assembly, comprising:

an optical signal collimator configured to emit an optical signal based on an input communication signal (22 in figure 2, emits signal based on input signal 20);

a dispersive device configured to receive the optical signal and to disperse multiple wavelength channels of the optical signal in a dispersive direction (24 in figure 2);

a first light-directing device configured to focus the multiple wavelength channels in a non-dispersive direction for projection onto a light modulating device (26 in figure 2); and

a second light-directing device configured to focus the multiple wavelength channels in the dispersive direction for projection onto the light modulating device (28 in figure 2, refocuses the light to be incident on modulator 30).

(2) With respect to claims 2 and 15:

Szczepanek et al. teaches an optical communication assembly, wherein the optical assembly is a dynamic gain equalizer (page 2, paragraph 0012, the reference teaches filter type dynamic gain equalizer) and the light-modulating device includes a MEMS mirror array (figures 4 and 5 show structure of MEMS mirrors).

(3) With respect to claims 3 and 16:

Szczepanek et al. teaches an optical communication assembly, wherein the multiple wavelength channels range from about 1528 nm to about 1610 nm (page 1, paragraph 0006, the reference teaches filter type DGE's that operate in the C-band, which covers exactly the claimed range of the invention).

(4) With respect to claims 13 and 27:

Szczepanek et al. teaches an optical communication assembly, wherein the first light-directing is further configured to diverge the multiple wavelength channels in the non-dispersive direction (26 in figure 2, the mirror does not direct the light in the direction of the desired angle or the dispersive direction), and the second light-directing device is configured to converge the multiple wavelength channels in the dispersive direction (28 in figure 2, focuses the light of modulator 30, in other words converges it).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-6, 9, 17, 18, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szczepanek et al. (20040008401) in view of Cohen et al. (20050036202).

(1) With respect to claims 4 and 17:

Szczepanek et al. teaches all of the subject matter as described above except for an optical communication, wherein the second light-directing devices is a second refractive devices.

However, Cohen et al. teaches an optical communication, wherein the first light-directing devices is a first refractive devices (18 or 30 in figure 1B).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the a the first refractive devices taught by Cohen et al. as the light-directing device in the assembly taught by Szczepanek et al. because the refractive device would better focus the wavelength on the second lens.

(2) With respect to claims 5 and 18:

Szczepanek et al. teaches all of the subject matter as described above except for an optical communication, wherein the first refractive device is a first lens comprising a cylindrical convex curvature in the non-dispersive direction, and the second refractive

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device is a second lens comprising a cylindrical convex curvature in the dispersive direction.

Cohen et al. clearly teaches an optical communication, wherein the first refractive device is a first lens comprising a cylindrical convex curvature in the non-dispersive direction (18 in figure 1B, it is noted that the non dispersive direction is any direction, whose angle is different from the angle of emission from the dispersive device), and the second refractive device is a second lens comprising a cylindrical convex curvature in the dispersive direction (30 in figure 1B, the dispersive direction is equal to the angle of emission from the dispersive device).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the design and use the cylindrical convex curvature taught by Cohen et al. in place of the mirror and lens used the Szczepanek et al. because it would be a design choice matter.

(3) With respect to claims 6 and 19:

Szczepanek et al. teaches an optical communication assembly, wherein the first lens is positioned between the optical signal collimator and the second lens (block 26, which is the first lens is between the collimator 22 and the second lens 28).

(4) With respect to claims 9 and 22:

Szczepanek et al. teaches a first reflective device is a first mirror in the non-dispersive direction (26 in figure 2).

However, Szczepanek et al. does not teach a cylindrical convex curvature and the second reflective device is a mirror comprising a cylindrical convex curvature in the dispersive direction.

Cohen teaches a first cylindrical convex curvature (18 in figure 1B) and a second cylindrical convex curvature in the dispersive direction (30 in figure 1B).

Although Cohen does not teach a second mirror, it would have been obvious as a matter of design choice to place a second mirror in order to better focus the wavelength onto the modulator. Therefore it would have been also obvious to one of ordinary skill in the art at the time of the invention to place a first cylindrical convex curvature and a second cylindrical convex curvature in the dispersive direction as taught by Cohen in the system taught by Szczepanek et al. because it would prevent further dispersion of the light in different direction and focus it onto the modulator.

5. Claims 7, 10, 20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szczepanek et al. (20040008401) and Cohen et al. (20050036202) as applied to claims 1 and 14 above, and further in view of Yamazaki et al. (6,002,101).

(1) With respect to claims 7, 10, 20, 24:

Szczepanek et al. and Cohen et al. teach all of the subject matter as described above except for an optical communication assembly, wherein the second lens is at a focal length of the first lens.

Yamazaki et al. teaches an optical communication assembly, wherein the second lens is at a focal length of the first lens (see figure 5C, lens E is at a focal length of F).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to place the lenses at a focal length of each other as taught by Yamazaki et al. in the assembly taught by Szczepanek et al. in order to avoid more dispersion of the channels and refocus them at the desired angle.

6. Claims 8, 11, 21, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szczepanek et al. (20040008401).

(1) With respect to claims 8 and 21:

Szczepanek et al. teaches an optical communication assembly, wherein the first light-directing device is a first reflective devices (26 in figure 2).

However, Szczepanek et al. does not teach a second reflective device.

Therefore it would have been obvious as a matter of design choice to use a second reflective device in the assembly taught by Szczepanek et al. because it would better help the focus of the light beam onto the modulator.

(2) With respect to claims 11 and 25:

Szczepanek et al. teaches an optical communication assembly, wherein the first light-directing device comprises an optical wavelength grating (24 in figure 2).

(3) With respect to claim 23:

Szczepanek et al. teaches a method, further comprising positioning the first mirror (26 in figure 2) between the lens and an optical signal collimator emitting the optical signal (22 in figure 2).

Szczepanek et al. does not teach the second mirror. However, it would have been obvious as a matter of design choice to use the mirror taught by Szczepanek et al. as a second mirror in order to provide better focus of the light onto the modulator.

7. Claims 12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szczepanek et al. (20040008401) in view of Ford et al. (6,337,935).

Szczepanek et al. and Cohen et al. teach all of the subject matter as described above except for an optical communication assembly, wherein the non-dispersive direction is substantially perpendicular to the dispersive direction.

However, Ford et al. teaches a dispersive direction that is perpendicular to another (see figure 4).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the same concept taught by Ford et al. in the assembly of Szczepanek et al. because it would allow the channels to better focus on their target device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guerssy Azemar whose telephone number is (571) 270-1076. The examiner can normally be reached on Mon-Fri (every other Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone


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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Guerssy Azemar

11/18/2006



KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER